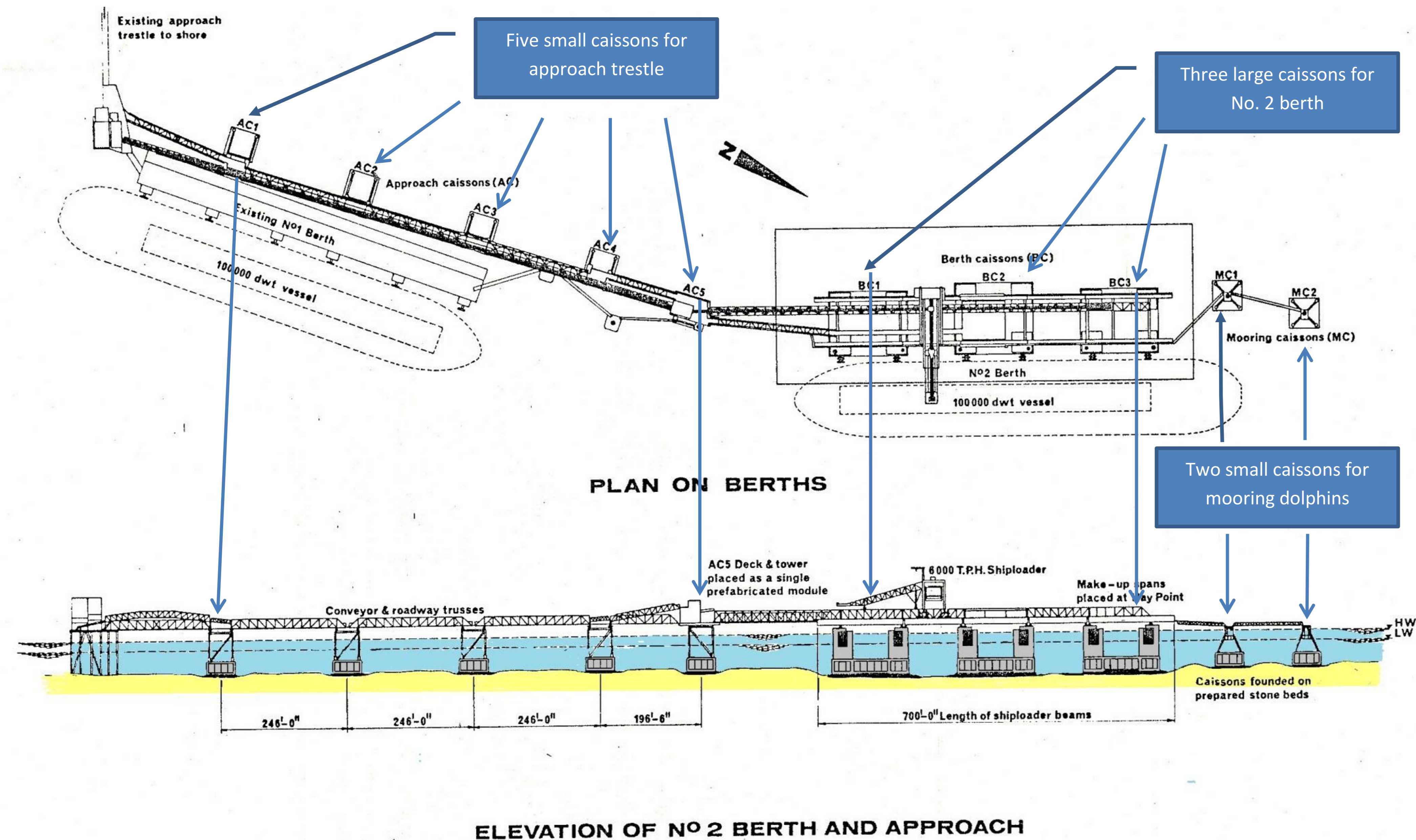


FABRICATED IN ONE PORT - ERECTED IN ANOTHER

HAY POINT NO. 2 EXPORT COAL LOADING JETTY

CONCEPT - BEAT THE WEATHER

In 1972, to minimise weather delays and risk of accidents in berthing ships at No. 1 Jetty at Hay Point, a plan was developed to construct No. 2 Jetty by fabricating caissons in the protected waters of Mackay Harbour. The caissons would then be floated, towed 25 sea miles to Hay Point, and sunk in position to form the jetty, thus minimising construction time in the open sea.



ENGINEERS

This jetty involved the world's first use of floating caissons to provide an offshore ship loading terminal. It was designed in Brisbane by Rendel and Partners, (Alastair Eddie, Director of Engineering, and Alex McKnight, Project Engineer) in association with eminent American engineer, Professor Ben C. Gerwick, who at the time was developing similar work for the North Sea oil drilling platforms.

Construction of the project in 1973-75 was by an alliance of Christiani & Nielsen of South Africa (Uffe Hansen, project manager and Neil Hodge, project engineer); and John Holland of Australia (principal engineers Geoff Cook and Geoff Curnow).

CONSTRUCTION AT MACKAY

The jetty comprises three large prestressed concrete caissons weighing up to 30 000 tons each, with four reinforced concrete towers on the corners of each caisson to support the jetty's steel superstructure. The caissons, with partially completed towers, were constructed in a purpose built dry dock in Mackay Harbour. The towers were completed to full height and steel superstructure added at a fitting out berth in the Harbour. The coal loader weighing 1200 tons was assembled and commissioned on top of one caisson within the harbour, further reducing open sea work.

FURTHER RISK REDUCTION

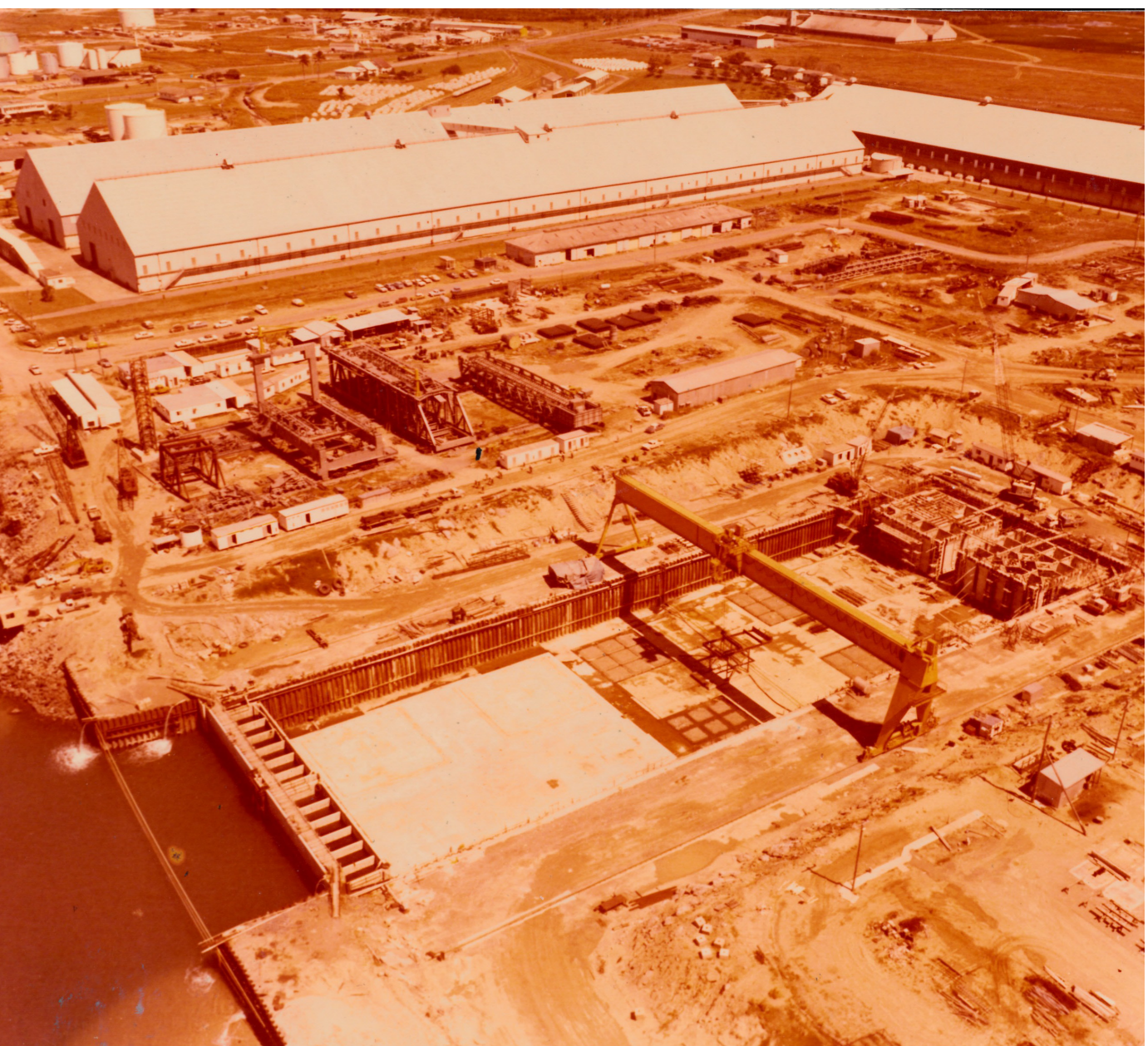
Five small caissons provided a foundation for the extension of the offshore access road and coal loading conveyor. Two other small caissons formed the mooring dolphins. These caissons were also fabricated in Mackay Harbour and floated to Hay Point.

PERFORMANCE

With loading of the first ship in March 1976, the jetty was commissioned by Utah Development Company to increase the coal export capacity from its Central Queensland mines. The jetty was owned subsequently by BHP Billiton Mitsubishi Alliance.

The jetty was originally designed for 100 000 dead weight tonnage (DWT) ships, but the structure was strong enough to install in 1995, upgraded fenders to cater for 250 000 DWT ships. By 2012 over 500 million tonnes of coal had been loaded over the jetty.

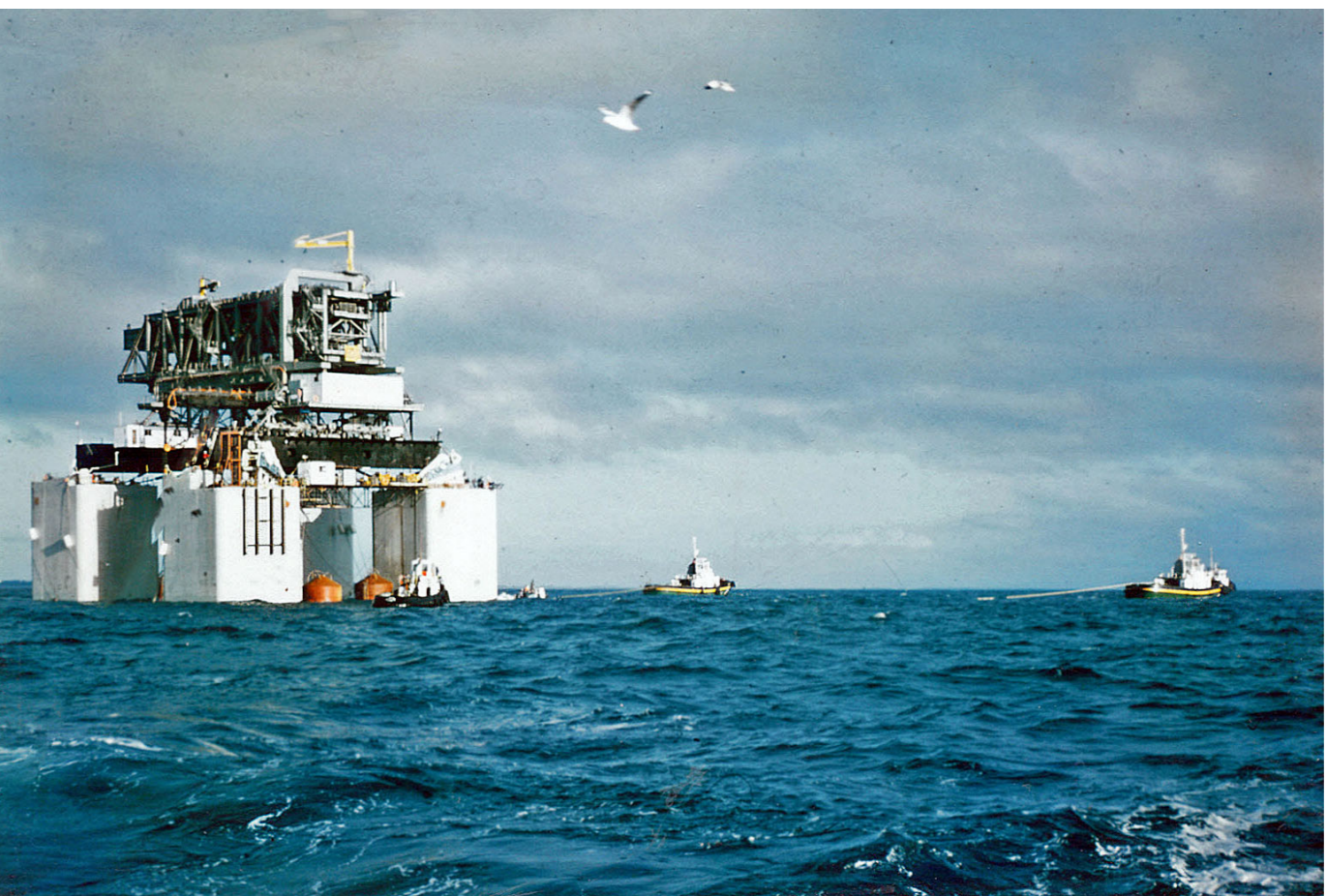
In 2012, Engineering Heritage Australia recognised this significant and unique project by awarding it an Engineering Heritage National Landmark.



Caissons being fabricated in the dry dock at Mackay Harbour



Coal ship being loaded at completed jetty



Largest Caisson with Coal Loader under tow to Hay Point



Caissons nearing completion in Mackay Harbour



2013



ENGINEERS
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Billiton Mitsubishi Alliance



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